

REMARKS/ARGUMENTS

A clean copy of the 9 pages of specification, claims and abstract have been included for the convenience of the Examiner. The remaining numbered paragraphs refer to the numbered paragraphs in the Office Action and final rejection mailed July 24, 2003 for the Parent Application.

¶1. The drawings have been objected to under 37 CFR 1.83(b) in this Office Action mailed July 24, 2003 as not showing the thermal energy supplied to the heat pipe. In response to this objection, each of the FIGS 1-5 have been amended to include a two ended arrow identified as “temperature difference” to represent the temperature gradient across the vaporizer to the condenser sections of the heat pipe, arrow A representing thermal energy, arrow B representing the heat flow within the heat pipe and arrow C representing the electricity that is produced by the process of the present invention. No new matter is involved in these amendments; see the last line on page 2, the first and third paragraphs on page 6, and the first paragraph on page 8 of the translation of the German priority Publication, WO 00/25414.

¶2-¶3. Claims 7-16 stand rejected under 35 U.S. C. 112, first paragraph based on a non-enabling disclosure in the Office Action and final rejection mailed July 24, 2003 for the Parent Application. The claims have now been amended to remove the misleading adjective “external” in the phrase “external forces” and, in two occurrences, to replace “external” with the phrase “these vapor flow” to define the type of forces.

The only reference to external forces that was found in the translation of German priority Publication, WO 00/25414, is found in claim 1. Claim 1 contained the following phrase:

“the charges are moved away from one another by the working media under the action of external forces, the external forces performing work against the Coulomb force...”

However, the only forces that this phrase referred to were the gas or vapor flow forces

within the heat pipe shown in the original FIGS. 1-3. Clearly, the use of the adjective “external” was not intended to mean something external to the heat pipe shown in FIGS. 1-3. The Applicant used the term “external” to mean forces that are external to the internal Coulomb forces within the electrostatic generator. Therefore, the specification of the Continuation Application will be more understandable by removing the adjective “external” in connection with the vapor or gas flow forces. Consequently, the term has now been removed. By making these slight amendments to claim 7, the presently claimed invention becomes clearer. This will be discussed in greater detail below.

¶4. The Primary Examiner has three objections to the specification in the Office Action and final rejection mailed July 24, 2003 for the Parent Application.

The first objection is to page 3, last line by use of the phrase “the use of solar energy” which is found in claim 16, but is not disclosed. The phrase “the use of solar energy” is found in the Abstract, the last line on page 2, of the translation of the German priority Publication, WO 00/25414. This line reads: “Application – use of solar energy.” This provides the support that one of the thermal energy sources that is the driving force of the heat pipe is the use of solar energy.

In addition, the last paragraph on page 3 has been amended to delete the adjective “external” in reference to the gas flow forces that place within the heat pipe shown in the figures.

The second objection is to page 4, lines 10-11 by the use of the phrase “drive does not take place by external mechanical work....” This objection has been removed by more precisely defining “drive” with the phrase “drive of the electrostatic generator.”

The third objection is to page 5, lines 4-5, by the use of the phrase “external temperature gradient builds up between.....” This objection has been overcome by the deleting the adjective “external” in reference to the temperature gradient. As discussed above in reference to the gas flow forces being within the heat pipe shown in the figures and not external to the heat pipe, the temperature gradient referred to in this paragraph of the specification is also totally within such a heat pipe. However, it is understood by those skilled in the art of heat pipes that as a result of this internal temperature gradient, there is a corresponding external temperature gradient occurs and results in a thermal gradient between the thermal energy A that enters the heat pipe in the

vaporizer 11 and the thermal energy leaving the heat pipe from the condenser; see the drawing of a heat pipe on page 5 of the article entitled “What is a Heat Pipe?” located on the Web at <http://www.cheresources.com/htpipes.shtml>, a copy of this article accompanied the previous amendment.

¶5.-¶6. Claims 7-16 stand rejected under 35 U.S. C. 101 and under 35 U.S. C. 112 because the invention as claimed is not supported by a clearly asserted utility or well established utility and consequently, one skilled in the art would not know how to use the claimed invention. This rejection has now been overcome by the deletion of the adjective “external.” As previously stated in the above remarks, this use of “external” was misleading in describing the forces within the heat pipe shown in FIGS. 1-5. Apparently, the Primary Examiner has interpreted the claimed invention as one that requires some undefined external force to produce the electrical energy. The presently amended claim 1 now clearly reads on a process in which thermal energy is converted to electrical energy. Specifically, claim 1 now contains a step of displacing the resulting charged liquid droplets-working medium under the action of forces caused by the kinetic energy of the molecules of the vapor flow, i.e. gas or vapor flow forces. Once these vapor flow forces displace the liquid droplets of the electrostatic generator, the final step of the claimed process takes place. This step comprises passing the entrained liquid droplets past the pick-up electrodes to pick up the electric charges that are mechanically displaced by these vapor flow forces against the Coulomb forces of the electrostatic generator; hence, electrical energy is generated. There are no external forces required in the presently claimed process except some source of thermal energy such as solar energy.

Subsequent to the conception of the invention disclosed in the German priority Publication, WO 00/25414, a successful reduction to practice of a device for practicing the method of the claimed invention was made. The Applicant urges that one skilled in the art would have no difficulty building a device to carry out the presently claimed invention based on reading the specification and reviewing the drawings. To support the foregoing fact, a Declaration Under 37 CFR 132 of Dr. Harold Gascoigne accompanies this Preliminary Amendment.

¶7.- ¶9 The deletion of “external” to define the gas or vapor flow forces taking place during the

process is not new matter since it is clear from the original drawings that the only vapor flow or gas flow that takes place is entirely within the heat pipe shown in the drawings. This term was merely included in the originally translated priority publication to mean forces that are external from the other internal forces taking place within the electrodes of the electrostatic generator.

The Applicants respectfully submit that claims 7-16 are fully supported in the Parent Application and that no new matter is added by way of this Preliminary Amendment. The accompanying Declaration Under 37 CFR 132 of Dr. Harold Gascoigne supports the fact that the translation of the priority application, PCT/DE99/03389 filed October 21, 1999, published as WIPO Publication No. WO 00/25414, fully supports this Continuation Application. Entry of this Preliminary Amendment in this Continuation Application and examination of claims 7-16 is respectfully requested.

A Petition To Make Special By Accelerated Examination (37 C.F.R. § 1.102(c) and M.P.E.P. § 708.02(V and VI)) and a Statement of Facts In Support Of Petition To Make Special By Accelerated Examination accompany this Continuation Application.

Respectfully submitted,



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